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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/403,429	10/20/1999	TOSHIHIRO SHIMIZU	2535USOP	7265
23115	7590	07/15/2004	EXAMINER	
TAKEDA PHARMACEUTICALS NORTH AMERICA, INC INTELLECTUAL PROPERTY DEPARTMENT 475 HALF DAY ROAD SUITE 500 LINCOLNSHIRE, IL 60069			TRAN, SUSAN T	
			ART UNIT	PAPER NUMBER
			1615	

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/403,429

Applicant(s)

SHIMIZU ET AL.

Examiner

Susan T. Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 20,21,23-26 and 28-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20,21,23-26 and 28-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 06/21/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

Receipt is acknowledged of applicant's Request for Continued Examination, Preliminary Amendment, and Information Disclosure Statement filed 05/28/04.

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 05/28/04 has been entered.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 20, 21, 23-26 and 28-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Depui et al. US 6,365,184.

The claims are drawn toward an orally disintegrable tablet comprising lansoprazole, 5-97% sugar, and low-substituted hydroxypropylcellulose (L-HPC) having 5 to 7% by weight of hydroxypropoxyl group. Claims 20, 21 and 23-26 are drawn to a method of preparing the orally disintegrable tablet.

Depui discloses an oral dosage form comprising proton pump inhibitor including lansoprazole (column 3, lines 54-67, and column 6). The proton pump inhibitor is coated with hydroxypropyl cellulose, mannitol, and other pharmaceutically acceptable ingredients alone or in mixtures (column 9, lines 7-35, and examples 3, 12, 17), and then mixed with L-HPC to be compressed into tablet having disintegration time between 15-30 seconds (examples 2, 5, columns 16 and 20). With respect to claim 32, wherein the L-HPC is separated from the fine granules containing lansoprazole; Depui discloses the separating and the enteric coating layers outside of the proton pump inhibitor core before admixing with L-HPC (columns 9-10, and example 2).

It is noted that Depui does not teach the percent substitution of the hydroxypropoxyl group. However, it is the position of the examiner that the L-HPC of Depui would have a similar percent substitution of the hydroxypropoxyl group because Depui teaches the use of L-HPC to obtain a similar fast disintegrating tablet dosage having disintegration time falls within the claimed range (example 2).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 20, 21, 23-26 and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Depui et al., in view of Makino et al.

Depui is relied upon for the reason stated above. Depui does not expressly teach the percent substitution of a hydroxypropoxyl group in the L-HPC.

Makino teaches a composition comprising granules having a core coated with spraying powder containing drug, L-HPC having a hydroxypropoxyl group of about 4-20%, and sucrose (column 1, lines 55-68, and column 3, lines 45-56). The drug can be selected from the group including benzimidazole (column 2, line 18). Makino also teaches the granules can be further coated with Eudragit® (enteric) (column 4, lines 15-29).

It is noted that the composition of Makino exhibit excellent disintegration time. Nonetheless, Makino teaches a disintegration time of 1 minute. However, it appears that the disintegration time is obtained in the use of L-HPC having a hydroxypropoxyl group of 10-13% (see example 1, column 4, lines 58-60). Thus, it would have been

obvious for one of ordinary skill in the art to, by routine experimentation select L-HPC having a content of the hydroxypropoxyl group from about 4 as disclosed in column 1, lines 64-67 with the expectation of providing a faster disintegrating dosage form. Accordingly, one of a skilled artisan would have been motivated to modify the disintegrable dosage form of Depui using the L-HPC in view of teaching of Makino with the expectation to obtain a faster disintegrable tablet dosage form.

Claims 20, 21, 23-26 and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Depui et al., in view of Ohno et al. US 5,958,453.

Depui is relied upon for the reasons stated above.

Ohno teaches a pharmaceutical composition comprising 5-95% erythritol, L-HPC, and gastrointestinal agents (column 2, lines 13-25, column 3, lines 5-10, and column 5, lines 20-41). Ohno also teaches that the composition has a buccal dissolution rate of about 0.1-1.0 minute (column 6, lines 63-67).

It is noted that the cited references do not expressly teaches the percent substitution of a hydroxypropoxyl group in the L-HPC. However, where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). It is noted that, both, Depui and Ohno teaches the use of L-HPC to obtain fast disintegrable dosage forms that exhibit a disintegration time of less than 60 seconds, which falls with the claimed range.

Accordingly, the applicant has the burden of showing that the L-HPC taught by Depui and Ohno does not have the claimed percent substitution of a hydroxypropoxyl. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Thus, it would have been obvious for one of ordinary skill in the art to modify the dosage form of Depui using the sugar and the L-HPC in view of the teaching of Ohno with the expectation to provide a solid dosage form that exhibits a fast buccal disintegratability and dissolubility.

#### ***Pertinent Arts***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yabuki et al. and Yamaguchi et al. are cited as of interest for the teachings of tablet dosage form comprising L-HPC.

#### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan T. Tran whose telephone number is (571) 272-0606. The examiner can normally be reached on M-R from 6:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K. Page, can be reached at (571) 272-0602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

  
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SUPERVISORY PATENT EXAMINER  
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